

Applicant's claim 1 recites "a metal blade comprising a striking face, a sole, and a rear face, the striking face and the sole meeting at a knife-like leading edge" (emphasis added). Nowhere in Mertens is there a teaching or suggestion of a knife-like leading edge. To the contrary, FIGS. 4, 6, and 7 show that the striking face and the sole meet at about a 90 degree angle at a rounded leading edge (28). Mertens' invention pertains to the configuration of the sole of the club head and also to a metallic layer disposed on the striking surface. The physical properties of the leading edge (28) are not discussed at all. Therefore, claim 1 is patentable over Mertens. As claims 19 and 20 depend from claim 1, they should be patentable for the same reason.

Claims 1 and 19 were rejected by Examiner under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,301,944 to Koehler. This ground of rejection is respectfully traversed.

Koehler discloses a golf club head having a two-portioned sole, one portion of the sole meeting the face at a leading edge (22), and an increased radius of curvature of the leading edge.

As stated above, Applicant's claim 1 recites "a knife-like leading edge". Nowhere in Koehler is there a teaching or suggestion of a knife-like leading edge. Again, to the contrary, FIGS. 1, 2, 3(a), 3(b), and 3(c) show that the face and sole meet at rounded leading edge. Further, Koehler teaches away from a knife-like leading edge at Column 5, lines 1-9, where Koehler discloses that the leading edge of his club head has an increased radius of curvature "to allow the wedge to spread the blades of grass rather than cut across them". Applicant's invention uses a knife-like leading edge for the purpose of cutting through grass, not for spreading the grass. For these reasons, claim 1 is patentable over Koehler. As claim 19 depends from claim 1, it should be allowable for the same reasons.

Claims 2-13 and 16-18 were rejected by Examiner under 35 U.S.C. 103(a) as being unpatentable over Mertens in view of U.S. Patent No. 5, 013,041 to Sun et al. and U.S. Patent No. 5,489,097 to Simmons. This ground of rejection is also traversed.

Although Sun et al. disclose the use of weight members, it fails to cure the deficiency of Mertens with respect to a teaching or suggestion of a knife-like leading edge. The leading edge of Sun et al. is not given a reference numeral as it is not material to the invention. However, FIG. 3 of Sun et al. shows that the leading edge (the edge where the sole plate (17) meets the face plate (11)) is rounded. As neither Sun et al. nor Mertens teach or suggest the knife-like leading edge

of claim 1, claims 2-13 and 16-18, which depend from claim 1, are patentable over these cited references.

Simmons suffers the same defect as Mertens and Sun et al. It also fails to teach or suggest a knife-like leading edge. Although not given a reference numeral because of its immateriality to the invention of Simmons, the face (16) of the club head is shown in FIGS. 2, 5, 7 and 8 to meet the sole (18) at a blunt, approximately 90 degree angle. Therefore, as Mertens, Sun et al. and Simmons, whether singly or in combination, fail to teach or suggest all the limitations of claim 1, claims 2-13 and 16-18 which depend from claim 1, are patentable over these references.

Claims 2-13 and 16-18 were rejected by Examiner under 35 U.S.C. 103(b) as being unpatentable over Koehler in view of Sun et al. and Simmons. This ground of rejection is traversed for the same reasons as given above with respect to Mertens, Sun et al. and Simmons. These references, singly or in combination, fail to suggest the knife-like leading edge which is recited in Claim 1. As such, claims 2-13 and 16-18, which depend from claim 1, are patentable over these cited references.

Claims 14-15 were rejected by Examiner under 35 U.S.C. 103(a) as being unpatentable over any one of Mertens or Koehler and further in view of U.S. Patent No. 4,065,133 to Gordos and U.S. Patent No. 5,603,668 to Antonious. This ground of rejection is likewise traversed.

Gordos discloses a golf club having side wall surfaces 18 with parallel grooves formed therein, said grooves being longitudinally aligned and in communication with groove extensions 32a and 34a. Gordos fails to cure the deficiency of Mertens and Koehler with respect to a knife-like leading edge. The face plate of Gordos is shown in FIGS. 3 and 5 to meet the sole of the club head at a rounded and relatively high degree angle. Thus, claim 1 and claims 14-15, which depend from claim 1, are patentable over these cited references.

In addition, claim 14 is separately patentable over Mertens or Koehler in view of Gordos. Claim 14 recites the golf club of claim 1 "wherein the knife-like leading edge is serrated". None of the cited references teaches or suggests a leading edge which is serrated. Rather, Gordos discloses grooves which run the entire length of the upper and bottom surfaces of the club head and which act as a directional vane to maintain the club head in a desired arcuate path, reducing the likelihood of twisting of the club. The rounded, blunt edge of Gordos, where the face plate

meets the bottom surface of the club head, precludes the possibility that the “grooves” of Gordos can be serrated. “Serrated” is defined as “notched like the edge of a saw” or “having or forming a row of small, sharp, projections resembling the teeth of a saw”. (See attached definitions.) FIGS. 1, 3, 5, and 6 reveal that the grooves of Gordos do not meet the definition of “serrated”. Therefore claim 14 is separately patentable over Mertens or Koehler in view of Gordos. As claim 15 depends from claim 14, it is patentable for the same reasons.

Antonious discloses a club head with an improved sole construction including cavities and/or projections on the sole in various shapes. The cavities and projections on the sole are spaced behind the leading edge of the club head and include a substantially vertical wall facing the leading edge of the golf club head.

Antonious, like Gordos, fails to cure the deficiency of Mertens and Koehler with respect to the knife-like leading edge limitation of claim 1. As shown in FIGS. 3, 4A, 7A, 11A, 13A, 17A, 23A, 25A and 27A, the striking face (20) of Antonious meets the sole (28) at a blunt, relatively high degree angle, rather than at a knife-like leading edge. For this reason, claims 14-15, which depend from claim 1, are patentable over the cited references.

In addition, claim 14 is separately patentable over Mertens or Koehler in view of Antonious. Claim 14 recites a club head wherein “the knife-like leading edge is serrated”. Nowhere in Antonious is there taught or suggested that the leading edge is serrated. Rather it is the sole of Antonious that has cavities or projections. Antonious’ purpose for placing cavities or projections on the sole is to move a greater amount of sand directly at the ball creating an improved shot from a bunker. Serrating the leading edge would not serve this purpose. Therefore, claim 14 is separately patentable over Mertens or Koehler in view of Antonious. As claim 15 depends from claim 14, it should be patentable for the same reasons.

In view of the above remarks, Applicant respectfully submits that claims 1-20 are patentable over the cited references. Withdrawal of the rejections and allowance of these claims is respectfully requested.

The Commissioner is hereby authorized to charge any fees that may be due in connection with these remarks to Deposit Account No. 04-1679.

Respectfully submitted,

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